Why do they keep coming back? Persistent frequent attenders in primary care
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Why does someone, sometimes during several years, frequently visit the general practitioner? Often, of course, because of medical problems, but sometimes the background of these frequent consultations remains unclear and the general practitioner wonders how to change this behavior. Therefore, this thesis studies (the background of) frequent attenders of the general practitioner and examines which factors lead to (long-term) frequent attendance, the relationship with the (medical) problems of the patient, the possible therapeutically approaches of frequent attenders and the impact on the workload of the general practitioner and the cost of health care.

This thesis consists of three parts:
1. Retrospective database research on (persistent) frequent attenders;
2. Review of the literature about interventions on frequent attenders in primary care;
3. Prospective research of a cohort of incident frequent attenders.

In chapter 1 we describe the background of this research. Anyone may have periods in their lives during which frequent help from a general practitioner (GP) is sought or needed because of a medical problem. However, when such periods exceed two or more consecutive years, not only chronic physical, but also psychosocial problems are often present. Most research on frequent attendance is cross-sectional and focusses on patients who were frequent attender during 1 year. Longitudinal studies show that only 20–30% of frequent attenders (FAs) continue to attend frequently in the consecutive year. FAs not only frequently attend their GP, but make also more use of
other primary care and of secondary care. It is unclear whether this high use of health care may be explained by the excess morbidity these patients have. Thus, persistent frequent attendance could be seen as an easily detectable marker for underlying, often undetected, (psychosocial and psychiatric) problems. However, there are insufficient data about (the aetiology of) persistent frequent attendance, the costs of healthcare of (persistent) FAs, about effective interventions of FAs and about the influence of the GP and GP-patient communication on (persistence of) frequent attendance. It is unknown whether it would be feasible to develop a prediction rule for selecting persistent FAs using readily available information from GPs’ electronic medical records. Finally, we wanted to evaluate, using the data of a prospective cohort, whether detection and treatment of depression and anxiety of Fas could be cost-effective.

Because frequent attendance is mostly temporary and relates to clear and intercurrent medical problems and most somatic problems in this patient group are already dealt with in (chronic) care programs, we concentrated this thesis on persistent or repeated frequent attendance and on the specific role of psychological and social factors and GP characteristics in the aetiology of (persistence of) frequent attendance.

**Part 1. Retrospective database research**

*Chapter 2.* What is the best method to select FAs in a normal general practice? After considering various options, we chose a proportional definition of FAs by age and gender. Because consultation frequency depends on the age and the gender of the patient and differs between physicians, countries and regions only such a definition makes it possible to compare FAs. Using a large database of NIVEL (Netherlands institute for health services research; the first national study), we found that dividing the practice population in at least 3 age and sex groups is sufficient to reliably determine the top 10% FAs.

*In chapter 3* we describe the morbidity of short-term and persisting FAs and the workload of GP’s, caused by FAs using the database of the department of General Practice of the Academic Medical Center (HAG-net-AMC) This database contains data of 28,860 adult patients of 5 health centres. We found that of all Fas during one year (1yFAs), 15.4 % continued to frequently attend during 3 consecutive years (1.6% of all enlisted patients). GP’s spend 4 times more consultations on FAs and 5 times more on persistent FAs (pFAs, FAs during 3 years). Compared with non-FAs, FAs, and in particular pFAs, consume more health care and are diagnosed not only with more somatic diseases but especially more social problems, psychiatric problems and medically unexplained physical symptoms. Prevalence rates of chronic somatic illnesses vary less than psychosocial problems between non-FAs and (persistent) FAs.
Chapter 4. Besides already known morbidity (persistent) FAs may have hidden disorders. Also Fas, and in particular persistent Fas, increase GPs’ workload considerably. Therefore, it seems reasonable and efficient to target diagnostic assessment and intervention at patients with a high probability of becoming a persistent FA. But is it possible to predict which FAs are likely to continue to frequently visit the GP? Therefore, in a historic 3-year cohort study, we aimed to develop a prediction rule for selecting persistent FAs using readily available information from GPs’ electronic medical records. We used data on 28,860 adult patients from 2003 to 2005.

Out of 3045 1-year FAs 470 (15.4%) became pFA. With the present indicators our rule performs modestly in selecting those at risk of becoming pFAs (area under the receiver operating characteristics curve was 0.67; 95% confidence limits 0.64 and 0.69). More information or complementary diagnostic tests seem needed to construct a rule with sufficient performance for efficient risk stratification in clinical trials.

In chapter 5 we validated the prediction rule developed in chapter 4 in another region and period. We applied the existing model to a later time frame (2009-2011) in the original derivation network (temporal validation) and to patients of another network (SMILE Eindhoven; 2007-2009, temporal and geographical validation). Model improvement was studied by adding three new predictors. Finally, we developed a prediction model on the three data sets combined (N=12,539).

We concluded that external validation confirmed that persistent frequent attenders can be identified moderately well using data solely from patients’ electronic medical records.

FAs to primary care are likely to cost more in primary care than their non-frequently attending counterparts. But how much is spent on specialist care of FAs? In chapter 6 we describe the healthcare expenditures of (persistent) FAs and test the hypothesis that additional costs can be explained by FAs’ combined morbidity and primary care physicians’ characteristics. We linked the pseudonymised clinical data of 16,531 patients from 39 general practices to healthcare insurer’s reimbursements data. Main outcome measures were all reimbursed primary and specialist healthcare costs between 2007 and 2009. Primary care physicians’ characteristics were collected through administrative data and a questionnaire. We concluded that FAs of primary care give rise to substantial costs not only in primary, but also in specialist care that cannot be explained by their (known) multimorbidity. Primary care physicians’ working styles appear not to explain these excess costs. The mechanisms behind this excess expenditure remain to be elucidated.
Part II. Review of the literature about interventions on frequent attenders in primary care

In Chapter 7 we analyzed which interventions are effective in influencing morbidity, quality of life and healthcare utilization of FAs in primary care. We performed a systematic literature search for articles describing interventions on FAs in primary care. Outcomes were morbidity, quality of life and use of health care.

We identified 5 RCT’s of good quality. Three RCTs used frequent attendance to select patients at risk for distress, major depression and anxiety disorders and applied psychological and psychiatric interventions. Two of them found more depression-free days and a better quality of life after treating depression in FAs. No other RCT found any positive effect on morbidity or quality of life. Two RCTs studied an intervention which focused on reducing frequent attendance. No intervention significantly lowered attendance. Due to the difference in study settings and the variation in methods of selecting patients, meta-analysis of the results was not possible.

Concluding we did find indications that frequent attendance might be a sign of as yet undiagnosed depression and that treatment of this depression might improve the symptoms and the quality of life of depressed FAs. We found no evidence that it is possible to influence healthcare utilization.

Part III. Prospective cohort research

Chapter 8. Persistent FAs frequently suffer from multimorbidity and often have many (undiscovered) psychosocial problems. Assuming that somatic problems are treated appropriately, profit could be achieved in the detection and treatment of psychosocial disorders. Better understanding of the aetiology of persistent frequent attendance could help to develop more targeted prevention. However, it is unknown what the influence of psychosocial factors and general practitioner characteristics is on persistence of frequent attendance.

In a prospective cohort study with a follow-up of 2 years in 623 incident FAs in 2009, we used multilevel ordinal logistic regression analysis with 0, 1 or 2 years FB as the dependent variable and demographic, somatic, and general practitioner factors as confounders.

We concluded that panic, generalized anxiety, life events, illness behavior and lack of ‘mastery’ is independently associated with persistence of frequent attendance. Prevention should focus on effective treatment of these factors.

In chapter 9 we evaluated whether systematic detection and treatment of depression and anxiety after 1 and 2 years of frequent attendance might be cost-effective in comparison with usual care. We applied a Markov model to simulate the course
of a cohort of 10,000 FAs over a period of 5 years. Main outcomes were years of not being a FA without depression or anxiety, and Quality-Adjusted Life-Years (QALYs). We simulated 25 treatment scenarios with treatment effects expressed as risk reductions of 10%-40%. In some scenario’s spillover effects on psychiatric morbidity and frequent attender status were modeled. Uncertainty was estimated using Monte Carlo simulation (1,000 simulations).

We concluded that systematic diagnostic assessment and treatment of depression and anxiety in FAs is not cost-effective in comparison with usual care, unless large spillover effects are assumed.

In chapter 10 we summarize our results. First we elaborate on the strengths and limitations of our research. Secondly, we describe the literature on this topic. It is striking that, although FAs are mainly studied in countries with a similar health care system (enlisted patients), frequent attendance has only once previously been studied in a scientific study in the Netherlands. Screening and treatment programs that use frequent attendance as a ‘fishing pond’ for other illnesses (depression, somatoform disorders, but not anxiety) often have disappointing results, probably because this study design denies the multi-causal causes of frequent attendance.

In the literature we found only one RCT of good quality that reduces the use of health care by FAs. In this (Spanish) research GPs analyzed FAs together and determined a targeted individual approach for each FA.

Based on the results of the aetiological study (Chapter 8), we might possibly prevent some of the persistent frequent visits and costs of health care by diagnosing and treating anxiety (panic and generalized anxiety) and inadequate coping style of FAs. As long as it is not clear whether a systematic care program for FAs might be (cost) effective, we propose to identify FAs in the electronic medical file (flags) and treat them individually.

This thesis advocates giving less attention to care programs focused on one single disorder (often of low prevalence) and to focus on patients, such as (persistent) FAs that can benefit optimally from the personal, continuous and comprehensive care of the GP. As described in this thesis the GP spends almost 40% of his time on FAs!

Further research should focus on the background of persistent frequent attendance, to the significance of the problem list as a proxy for FA’s morbidity and to the influence of the GP on the frequency of patient consultation. A Randomized Clinical Trial will have to decide whether and which intervention might be (cost) effective in improving the quality of life and reduce health care consumption of FAs.

Let’s face the frequent attender not as heart sink but as a challenge for GP care!

Frequent attenders deserve better care, not more care!